

**UNIVERSITY OF JAFFNA, SRI LANKA**  
**BACHELOR OF PHARMACY**  
**FOURTH YEAR SECOND SEMESTER EXAMINATION – FEBRUARY 2014**  
**PHACE 4202 - PHARMACEUTICS – V**

**25.03.2014**

**Time – 2 hour**

Answer all **EIGHT** questions.

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|---|--|-------------|
| 1 | 1.1 Define the term “oral sustained release preparations”.   | (20 Marks)  |
|   | 1.2 Describe methods that are used in the manufacturing of oral solid sustained release formulations with example. | (80 Marks)  |
| 2 | 2.1 Define the terms pharmacokinetics and pharmacodynamics.  | (20 Marks)  |
|   | 2.2 Explain factors with example that are responsible for inter-individual variation in drug response.             | (80 Marks)  |
| 3 | 3.1 What is stability testing?   | (20 Marks)  |
|   | 3.2 List potential adverse consequences of instability in pharmaceutical products. Give examples.                  | (30 Marks)  |
|   | 3.3 Briefly describe stability testing methods.  | (50 Marks)  |
| 4 | 4.1 Define the term bioavailability”.  | (20 Marks)  |
|   | 4.2 Describe the factors that affect bioavailability with examples.  | (80 Marks)  |
| 5 | 5.1 Define term “volume of distribution”.  | (20 Marks)  |
|   | 5.2 What are the factors affect the volume of distribution of a drug.  | (40 Marks)  |
|   | 5.3 Explain an experimental method used to determine the volume of distribution of drugs.                          | (40 Marks)  |
| 6 | 6.1 Name five (05) routes for systemic drug administration.  | (20 Marks)  |
|   | 6.2 Use aspirin as an example to illustrate drug absorption.   | (50 Marks)  |
|   | 6.3 What are the biological factors affect drug absorption.  | (30 Marks)  |
| 7 | 7.1 Define the term “drug biotransformation”.  | (20 Marks)  |
|   | 7.2 List major categories of drug biotransformation with examples.   | (30 Marks)  |
|   | 7.3 Describe the factors influence the biotransformation of drugs.   | (50 Marks)  |
| 8 | Describe the steps in the discovery and development of a new drug.   | (100 Marks) |